

## Reactive Dyed Superhydrophobic Cotton Fabric Production by Sol-Gel Method

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**Abstract :** The pretreated and bleached mercerized cotton fabric was dyed with reactive Everzol Brilliant Yellow 4GR (C.I. Yellow 160) dyestuff. Superhydrophobicity is provided to white and reactive dyed fabrics by using a nanotechnological sol-gel method with tetraethoxysilane and fluorcarbon water repellent agents by the two-step method. The effect of coating on color yield, fastness and functional properties of fabric was investigated. It was observed that water drop contact angles were higher in colorless coated fabrics compared to colored coated fabrics, there was no significant color change in colored superhydrophobic fabric and high color fastness values. Although there are no significant color losses in the fabrics after multiple washing and dry cleaning processes, water drop contact angles are greatly reduced.

**Keywords :** fluorcarbon water repellent agent, colored cotton fabric, sol-gel, superhydrophobic

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